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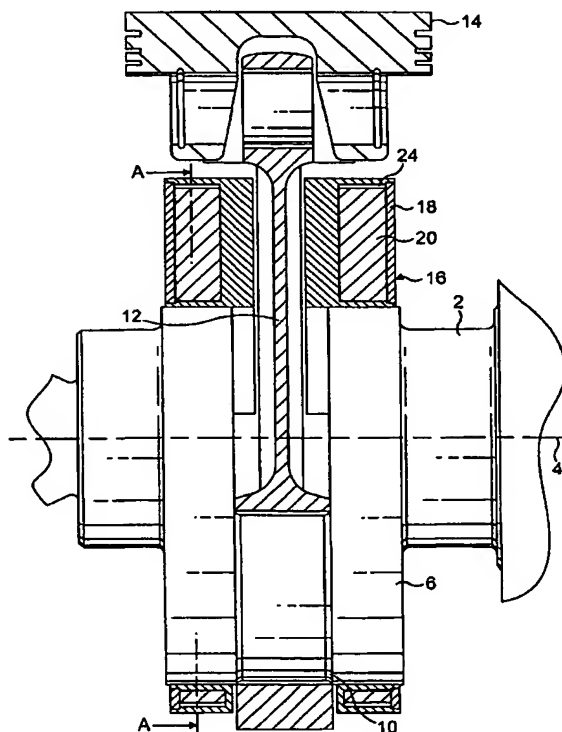
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(54) Title: **TORSIONALLY DAMPED ROTARY SHAFTS**



(57) Abstract: A rotary shaft, such as an automotive crankshaft, for rotation about an axis carries an eccentric substantially circular section, radially extending flap (6), connected to the radially outer surface of which is an annular housing (16) affording a cavity defined in part by radially inner and radially outer coaxial cylindrical surfaces. The axis (22) of the cavity is offset from the axis (4) of the shaft. The cavity accommodates an annular inertia mass (20) and the radially inner and outer surfaces of the cavity are opposed to radially inner and outer surfaces, respectively, of the inertia mass whereby there are two pairs of opposed surfaces. One of the said pairs constitutes bearing surfaces guiding relative motion of the inertia mass and the housing (16) about the axis (22) of the coaxial cylindrical surfaces. The other of the said pairs is spaced apart to define an annular space accommodating a displaceable material, such as a grease, the inertia mass and the cavity having a dimension in the radial direction which has a maximum value at a first position opposite to the direction of eccentricity and decreases progressively in both circumferential directions to a second position offset by 180° from the first position.

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